

Four connecting lines 68 connect the output of flip-flops 67 to decoder chip 70 as gated by the repeat-dialing key 25. A repeat control flip-flop 76 is set by that key to enable gates 75. The dial-out number should be run through only once. Repeat flip-flop 67 is reset upon return of the shift cycle of flip-flops 65 to flip-flop 65-1.

A first decoder 73-1 responds to bcd signals on lines 68 that represent a 1, a 2 or a 3. In either case, a line 71-1 is raised. Analogously, a decoder 73-2 responds to a 4, a 5 or a 6, to raise a line 71-2, etc. A decoder 74-1 responds to a 1, a 4 or a 7, to raise a line 72-1. Operation of decoders 73-3, 73-4, 74-2 and 74-3 for raising lines 71-3, 71-4, 72-2 and 72-3, respectively, follows analogously. Thus, for each decimal digit in bcd format as held in buffer flip-flops 67, a pair of lines, one each of the groups 71 and 72 is raised for the duration needed to effect a touch tone dial-out.

It follows from the following that in case key 25 is pressed, the telephone number digit that is being stored in the circuit is presented digit for digit in a particular format, in that for a particular period of time, one out of the three lines 71 and one out of the four lines 72, are energized.

The four lines 71 respectively connect to the base electrodes of a plurality 81 of transistors 81-1 through 81-4 respectively. These transistors having interconnected emitters, the connection leading as return path to oscillator circuit 14. The collector circuits of these four transistors 81 lead individually to the circuit 14 for control of production of one of the needed pair of touch tone dial-out frequencies. The activation or response of one of the lines 71 has effect on the one transistor corresponding to the operation of one switch bar in a regular touch tone dial-out switching matrix.

The three lines 72 correspondingly lead to the respective base electrodes of a plurality 82 of transistors 82-1, 82-2 and 82-3. The emitters of these transistors are interconnected and connect to those of transistors 81 for a common return path in the oscillator network. The three collector circuits of transistors 82 pertain to oscillator circuit 13, so that the other one of a pair of touch tone frequencies is produced upon energization of one of the three lines 72.

It follows, therefore, that upon pressing key 25 the number held in the desk calculator circuitry is being dialed-out automatically. The handset has been removed so that the line switch 17 has connected the oscillators 13 and 23 to the line 15.

Aside from the use as telephone, the keyboard without removal of the handset can be used as desk calculator while the particular touch tone keyboard portion serves for figure entry. The additional keys are provided as operational keys. They are of the type outlined in the above identified application.

As stated above, the keyboard is the relatively most expensive part of such a calculator. Its sharing with the telephone touch tone keyboard is a very advantageous employment. It should also be mentioned that the arrangement can readily be used as a temporary storage of telephone numbers. For example, the user has called somebody and the conversation partner mentions a number, actually any number, but, for example, another telephone number; for example, a number under which he can be reached shortly. The operator of this particular telephone can key that number into his set, as the line switch is closed, nothing happens on the tele-

phone line, but the number will be entered into the chip and be displayed and is ready for use at a later time. As all circuitry is miniaturized, they do not occupy more space than is available in a regular telephone.

5 An alternative construction is conceivable, wherein a duplicate switching matrix is provided, constructed as is conventional for touch tone dialing and connected to the oscillators 13 and 14 for operation thereof. Each digit key will activate switching bars in both matrixes. 10 The dial-out switching matrix would be connected to operate in parallel to the circuits 81 and 82 and as alternative.

The invention is not limited to the embodiments described above but all changes and modifications thereof not constituting departures from the spirit and scope of the invention are intended to be included.

I claim:

1. A telephone subscriber facility including telephone circuitry and handset further including a keyboard which includes digit keys and control keys; a first integrated circuit means connected to the keyboard means for receiving and storing signals representing sequentially keyed-in digits and assembling the signals as multi-digit numbers; 25 second integrated circuit means connected to the first integrated circuit means for providing signals in representation of these assembled signals and including means for cyclically presenting these signals as to each digit of the multi-digit number and as to all digits representing the number as a whole; 30 visual display means connected to receive said signals as provided by said second means and to display at least some of the digits of the keyed-in multi-digit number to obtain progressive display thereof as the digits of the multi-digit number are entered by the keyboard means; 35 means included in the first circuit means and connected to be responsive to operation of particular ones of the control keys to provide arithmetic operations on sequentially keyed-in numbers, the second integrated circuit means providing additional signals in representation of signals as resulting from said arithmetic operations, also on a cyclically repetitive basis for display by the display means; 40 second circuit means connected to the second integrated circuit means and receiving therefrom the signals on the repetitive basis and providing frequency reduction of presentation of the signals so as to obtain dial signals; and 45 automatic dial-out means connected to be responsive to operation of a particular key of the keyboard and further connected to the second circuit means to receive said dial signals and to provide relatively low rate dial signals.

2. A telephone subscriber facility including manually operable keyboard means, telephone circuitry and handset for connection to a telephone exchange; 50 first integrated circuit means connected to the keyboard means for receiving and storing signals representing sequentially keyed-in digits and assembling the signals in representation of a multi-digit number; 55 second integrated circuit means connected to the first integrated circuit means for providing signals in representation of the assembled signals repeatedly, on a cyclical basis so that the representation